

DAHLIA NEGLECTA (ASTERACEAE: COREOPSIDEAE), A NEW SPECIES FROM SIERRA MADRE ORIENTAL, MEXICO

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ABSTRACT

Dahlia neglecta, a new species from the state of Hidalgo, Mexico, is described and illustrated. This species is distinguished by the combination of glaucous stems, tufts of light-colored hairs at the rachis nodes, strongly oblique blade bases, and mucronate ligules.

RESUMEN

Se describe e ilustra *Dahlia neglecta*, una nueva especie del estado de Hidalgo, México. Esta especie se distingue por la combinación de tallos glaucos y un copete de pelos de colores suaves en los nudos del raquis. Además, las bases de las hojas pequeñas son predominantemente oblicuas, y con lígulas mucronadas. Se ofrece una clave del género.

While collecting material from wild populations of *Dahlia* to expand natural history information and for cytological and molecular analyses of the genus, several undescribed species from Mexico were encountered, one of which is described here.

Dahlia neglecta D.E. Saar, sp. nov. (**Fig. 1**). TYPE: MEXICO. HIDALGO: ca. 7 km NE of Tulancingo, just below the first pass along Mex 130 to the gulf coast, zone of *Quercus* and arborescent *Opuntia*; SE-facing slopes, among rocks and recent road fill, sunny to mostly sunny locations, elev. 2320 m, 11 Sep 1995, J.P. Hjerting, D.E. Saar, & P.D. Sørensen 95-86 (HOLOTYPE: MEXU; ISOTYPES: C, DEK, F, IEB, MO, TEX).

Herba perennis 1.1–1.5 m alti. Folia pinnata vel bipinnata. Multiflorus, capitula 10–12.5 cm diam., corollae radii ligulatae lavendulus, squammis exterioribus involucri reflexis sub anthesi. Distinguibilis a caules glaucedine, fasciculati densi ad rachis nodis, obliquis basis laminis, ligulae mucronatusque necnon.

Plants to 1.5 m (type locality) or 1.2 m (paratype population) with 1–3(–5) herbaceous stalks arising from perennial tuberous rootstock; internodes glaucous, hollow, nodes solid. **Median leaves** 19–24 cm long including petiole, bipinnate with stipels frequently at the second (occasionally second and third) rachis node, becoming pinnate without stipels to simple at the base of the flowering portion; petioles solid; rachis with prominent tufts of light-colored hairs at nodes, pinnules opposite on the rachilla, primary pinnae 5–7; leaflets dentate and ciliolate, blade bases strongly oblique, veins lighter-colored, sometimes creating a dusty appearance at first glance. **Capitula** to 12.5 cm in diameter including rays, borne on unbranched peduncles 6–19 cm long and projecting above

the foliage; outer involucre bracts reflexed at anthesis. **Ray florets** sterile; ligules lavender with a spot of yellow at the base, veins darker below, tips mucronate. **Disc florets** hermaphroditic, yellow. Cypselae elliptic-oblong, 8.6 mm wide \times 1.2–1.6 mm long; black.

Etymology and distribution.—Flowering commences in August (in 1995). Plants from the type locality grow along and in full view of a busy highway (Mex 105) near the large city of Tulancingo. It is surprising, therefore, that this showy species has not been described previously, hence the specific epithet, *neglecta*. The known distribution for this species is presently limited to the holotype and paratype localities.

PARATYPE: MEXICO. HIDALGO: at K-8, 2 km SW of Mineral del Monte, along route Mex 105, zone of *Cupressus* and scattered shrubby *Quercus*; road cut with dense vegetation on SE-facing slope, elev. 2800 m, 11 Sep 1995, J.P. Hjerting, D.E. Saar, & P.D. Sørensen 95-97 (DEK, MEXU).

The combination of glaucous stems, tufts of light-colored hairs at the rachis nodes, strongly oblique blade bases, and mucronate ligules sets this species unmistakably apart from all others. Sørensen's (1969) key would place *Dahlia neglecta* in section *Dahlia*. Within the key for this section, *D. neglecta* pairs with *D. australis* and *D. sherffii* at couplet "N" (page 325) and incorporates some morphological characters from each species. *Dahlia neglecta* is similar to *D. australis* in that the lower leaf surfaces are conspicuously lighter green or silvery green, but the former differs by having flat (not revolute or obscurely so) margins, a smooth (not rugose) upper leaf surface and glaucous (not glabrous or pubescent) canes. The fruit is of similar length but only 1.2–1.6 mm wide versus 1.5–2.6 mm for *D. australis*. The smooth upper leaf surfaces of *D. neglecta* are similar to *D. sherffii*. *Dahlia neglecta* differs from *D. sherffii* by its glaucous (not glabrous) canes, bicolored leaf surfaces, and narrower fruit (*D. sherffii* = 2.2–3 mm). The unique combination of characters mentioned earlier also distinguishes *D. neglecta*. None of these species are sympatric in their distributions.

A molecular study of the genus which utilizes combined molecular sequences from the internal and external transcribed spacer regions (ITS and ETS, respectively) of nuclear ribosomal DNA, shows good support (86% bootstrap value) for placing *Dahlia neglecta* in a pectinate clade ("Variable Root Clade") that includes the "tree dahlias" (sect. *Pseudodendron*: *D. imperialis*, *D. excelsa*, and *D. tenuicaulis*), sect. *Epiphytum* (*D. macdougallii*), two species from sect. *Dahlia* (*D. rudis* and *D. apiculata*), and an unpublished species (Saar et al. in press). Within this clade, *D. neglecta* is most closely allied with *D. apiculata* and *D. tenuicaulis*, but support is minimal (57% bootstrap value). *Dahlia neglecta* is not sympatric with these species and both *D. apiculata* and *D. tenuicaulis* have lignified perennial canes, whereas *D. neglecta* is herbaceous.

The description of *Dahlia neglecta* brings the number of "wild" or naturally-occurring species of *Dahlia* to 35, but does not include the cultivated forms

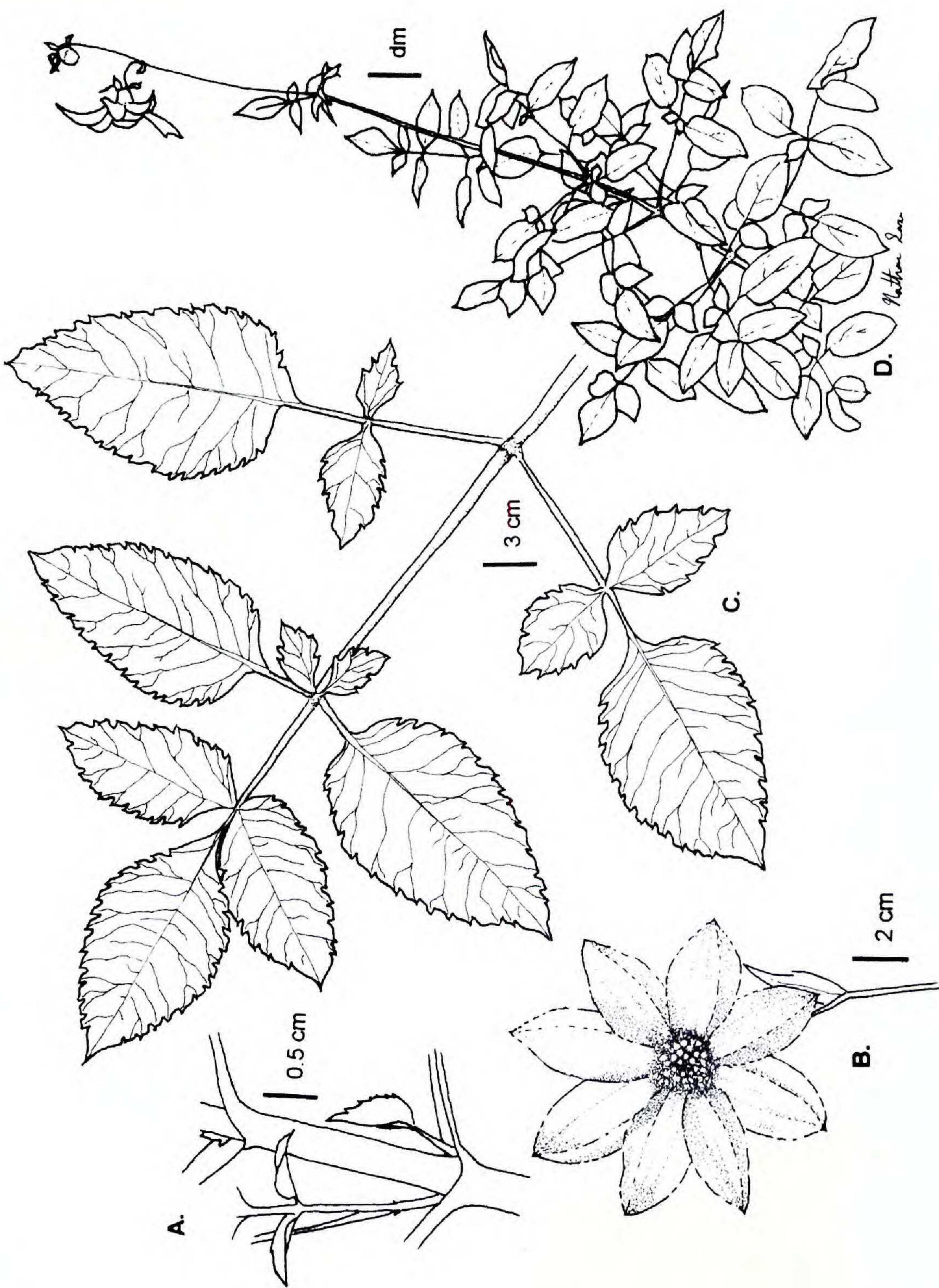


FIG. 1. *Dahlia neglecta*: A. leaf bases; B. flowering head; C. median leaf; D. general habit. Drawn from type specimens and photographs.

often called *D. variabilis* or occasionally *D. pinnata* (see Hansen & Hjerting 1996 for clarification of the latter Latin binomial). This total does, however, include three previously undescribed species currently “in review” or “in press:” *D. hjertingii* (Hansen and Sorensen in press), *D. campanulata*, and *D. cuspidata*.

ACKNOWLEDGMENTS

I thank Nathan A. Saar for preparing the illustration and Portia Gallegos for translating the abstract into Spanish. Paul Sørensen and Jens Peter Hjerting were invaluable throughout the field studies in Mexico. Guy Neson and an anonymous reviewer provided helpful comments to an earlier version of the manuscript.

REFERENCES

- HANSEN, H.V. and J.P. HJERTING. 1996. Observations on chromosome numbers and biosystematics in the genus *Dahlia* (Asteraceae, Heliantheae) with an account on the identity of *D. pinnata*, *D. rosea* and *D. coccinea*. *Nordic J. of Bot.* 16:445–455.
- HANSEN, H.V. and P.D. SØRENSEN. (In press). A new species of *Dahlia* (Asteraceae, Coreopsideae) from Hidalgo state, Mexico. *Rhodora*.
- SAAR D.E., N.O. POLANS, and P.D. SØRENSEN. (In press). A phylogenetic analysis of the genus *Dahlia* (Asteraceae) based on internal and external transcribed spacer regions of nuclear ribosomal DNA. *Syst. Bot.*
- SØRENSEN, P.D. 1969. Revision of the genus *Dahlia* (Compositae, Heliantheae–Corepsidinae). *Rhodora* 71:309–365, 367–416.